

Technical Service Bulletin

Mazda North American Operations
Irvine, CA 92618-2922

**Subject:**

**ENGINE MISFIRE DURING ACCELERATION WITH CHECK ENGINE
LIGHT FLASHING AND DTCs P0302:00, P0303:00 AND/OR U0401:00**

Bulletin No.: 01-010/18

Last Issued: 04/27/2018

BULLETIN NOTES

This bulletin supersedes the previously issued bulletin(s) listed below. The changes are noted in Red text.

Previous TSBs:	Date(s) Issued:
01-010/18	03/29/2018

APPLICABLE MODEL(S)/VINS

2016-2017 CX-9 vehicles with VINs lower than JM3TC*****135222 (produced before Dec. 27, 2016)

DESCRIPTION

Some vehicles may exhibit an engine misfire during acceleration with the check engine light flashing and the following DTC(s).

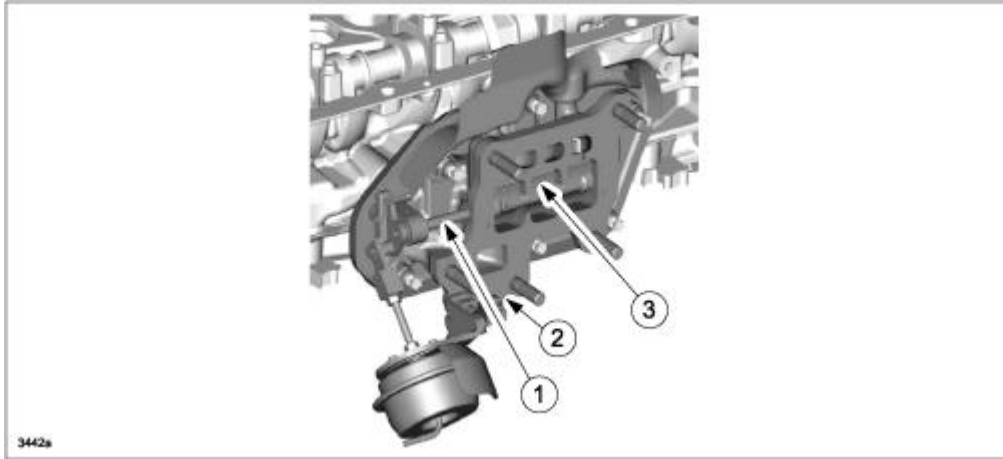
- P0302:00 - Cylinder No.2 misfire detected and/or
- P0303:00 - Cylinder No.3 misfire detected

NOTE: Even if a misfire occurred, the DTCs may not be stored because they are set after the continuous misfire occurred for 2 drive cycles. In this case, check if the following information is available to verify if the vehicle is applicable to this Service Information.

- The customer states that the misfire occurred and at the same time the check engine light started flashing.
- DTC U0401:00 ((ABS) Signal error from PCM) is detected.

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This concern may be caused if the exhaust manifold variable valve shaft (1) is out of alignment and/or the exhaust manifold variable valve housing (2) is out of shape. The exhaust manifold variable valve (3) then interferes with the housing and becomes stuck closed when the engine is hot.



To eliminate this concern in the future, the production processes and controls have been improved.

REPAIR PROCEDURE

1. Verify that DTCs P0302:00 and/or P0303:00 are stored in memory.

NOTE: DTCs P0302:00 and/or P0303:00 may not be stored because they are set after the continuous misfire for 2 drive cycles. If this is the case, verify that one or both of following conditions are met.

- If possible, confirm with the customer that the misfire and the check engine light started flashing at the same time.
- DTC U0401:00 is stored in memory.

NOTE: If there is any other engine related DTC(s) stored, diagnose and repair it accordingly.

2. If one or both of the above conditions are met, remove the exhaust manifold and verify that there are contact mark(s) on the exhaust manifold variable housing caused by the variable valve, as shown below.



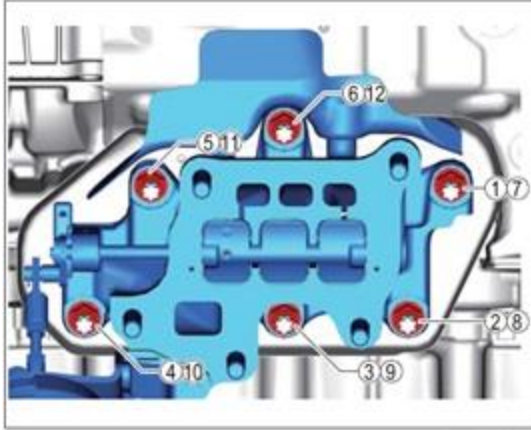
3. If contact mark(s) are found, replace the exhaust manifold with a modified one according to the instructions on MGSS online (EXHAUST SYSTEM REMOVAL/INSTALLATION [SKYACTIV-G 2.5T]).

Exhaust Manifold Installation Note

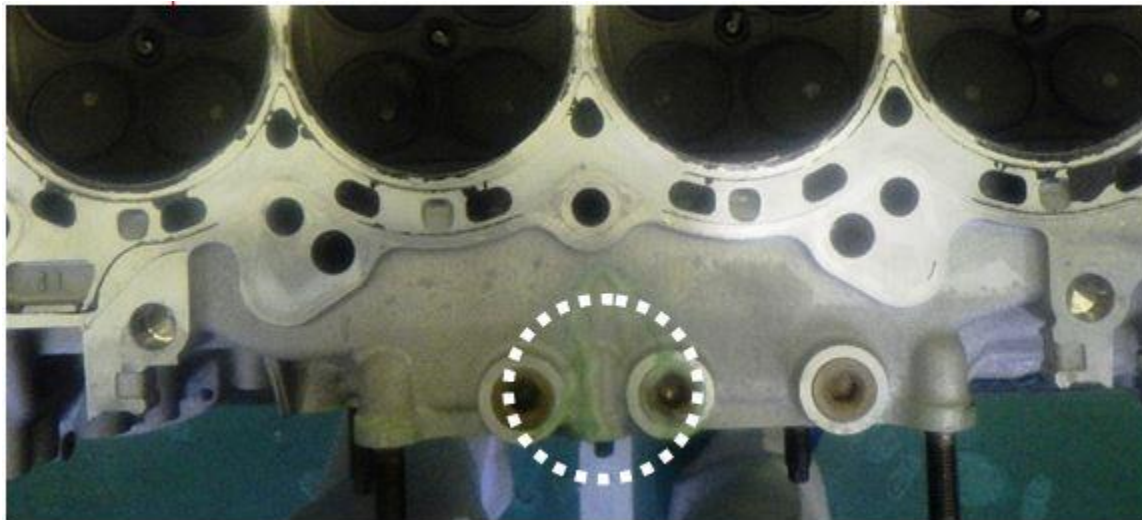
1. Tighten the nuts in the order shown below while watching that the stud bolts are not rotating.

Tightening Torque:

50—57 N·m {5.1—5.8 kgf·m, 37—42 ft·lbf}

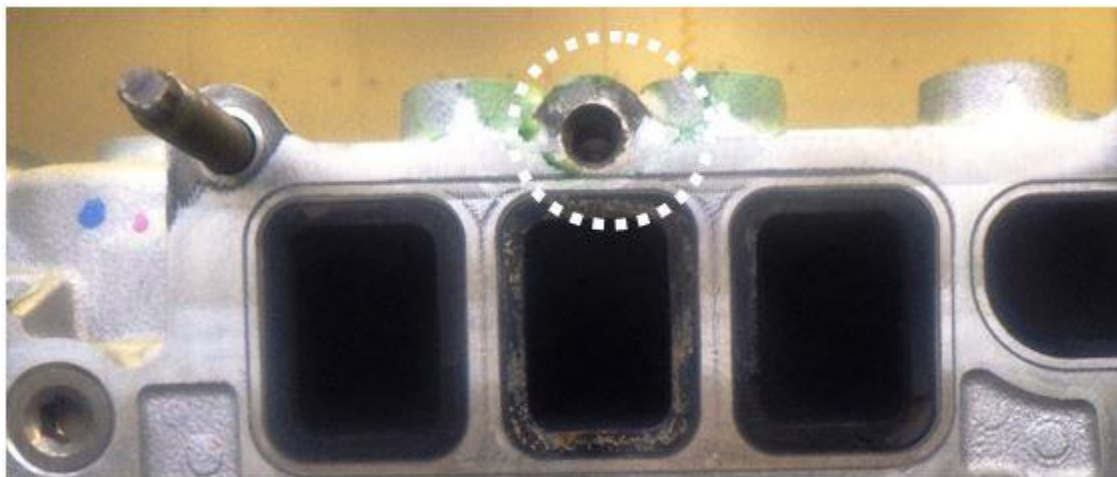


CAUTION: When tightening nuts, do not allow the stud bolt to rotate over 270 degrees, otherwise, it could cause the cylinder head to crack, as shown below. If cylinder head is cracked, replace it with a new one. (TOP VIEW)

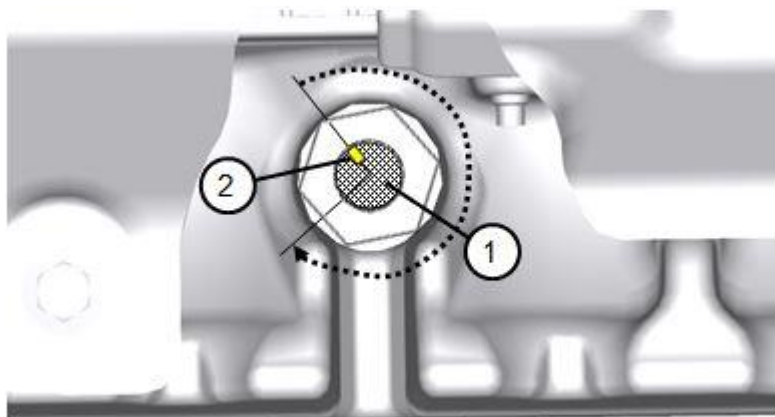


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(SIDE VIEW)



2. To prevent the stud bolt (1) from rotating over 270 degrees, place a mark (2) on the stud bolt (as shown below) and watch its movement while tightening the nut.



Permissible range of stud bolt
rotation:
270 Degrees

- If the stud bolt is going to rotate over 270 degrees before obtaining the specified tightening torque, hold it with a torque socket wrench (E10), then temporarily tighten the nut using an offset wrench. Lastly, tighten the nut to the specified torque using a torque wrench.

- If the stud bolt has rotated and was removed during removal of the exhaust manifold, reinstall it to the following tightening torque.

Tightening Torque:

15—19 N·m (1.5—1.9 kgf·m, 11—14 ft·lbf)

NOTE: There may be a crack found in the turbocharger housing, as shown below. The crack does not affect engine performance or cause any noise, so turbocharger replacement is not necessary.

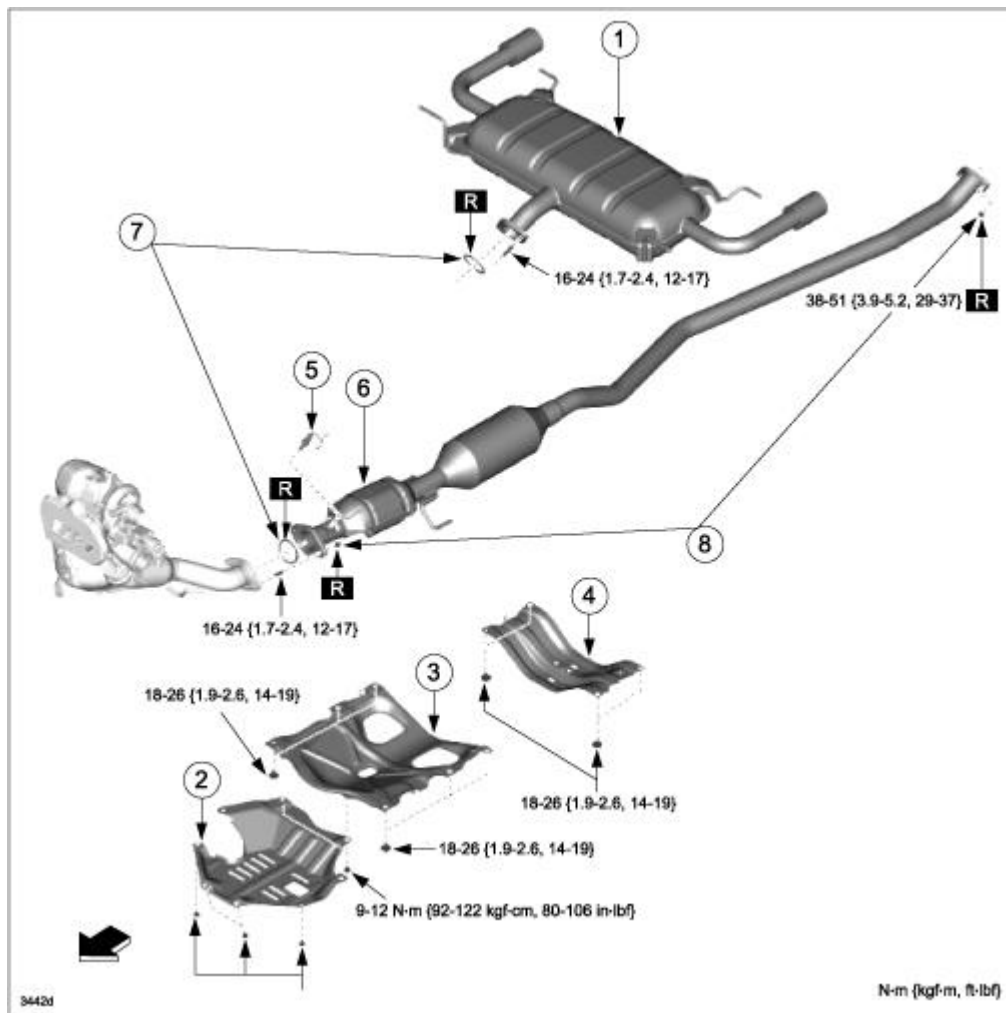


PARTS INFORMATION

Part Number	Description	Qty.	Notes
PY8V-13-450F	Manifold, Exhaust	1	Replace with modified part
PY8V-13-460	Gasket, Exhaust Manifold	1	Replace
PY88-13-465	Nut, Exhaust Manifold	5	Replace
SH01-13-465	Nut, Exhaust Manifold	6	Replace
PY88-13-490	Gasket, Exhaust Manifold	1	Replace
PY8V-13-710B	Gasket, Turbocharger	1	Replace
PE23-40-305	Gasket	2	Replace
9994-61-000	Nut	4	Replace

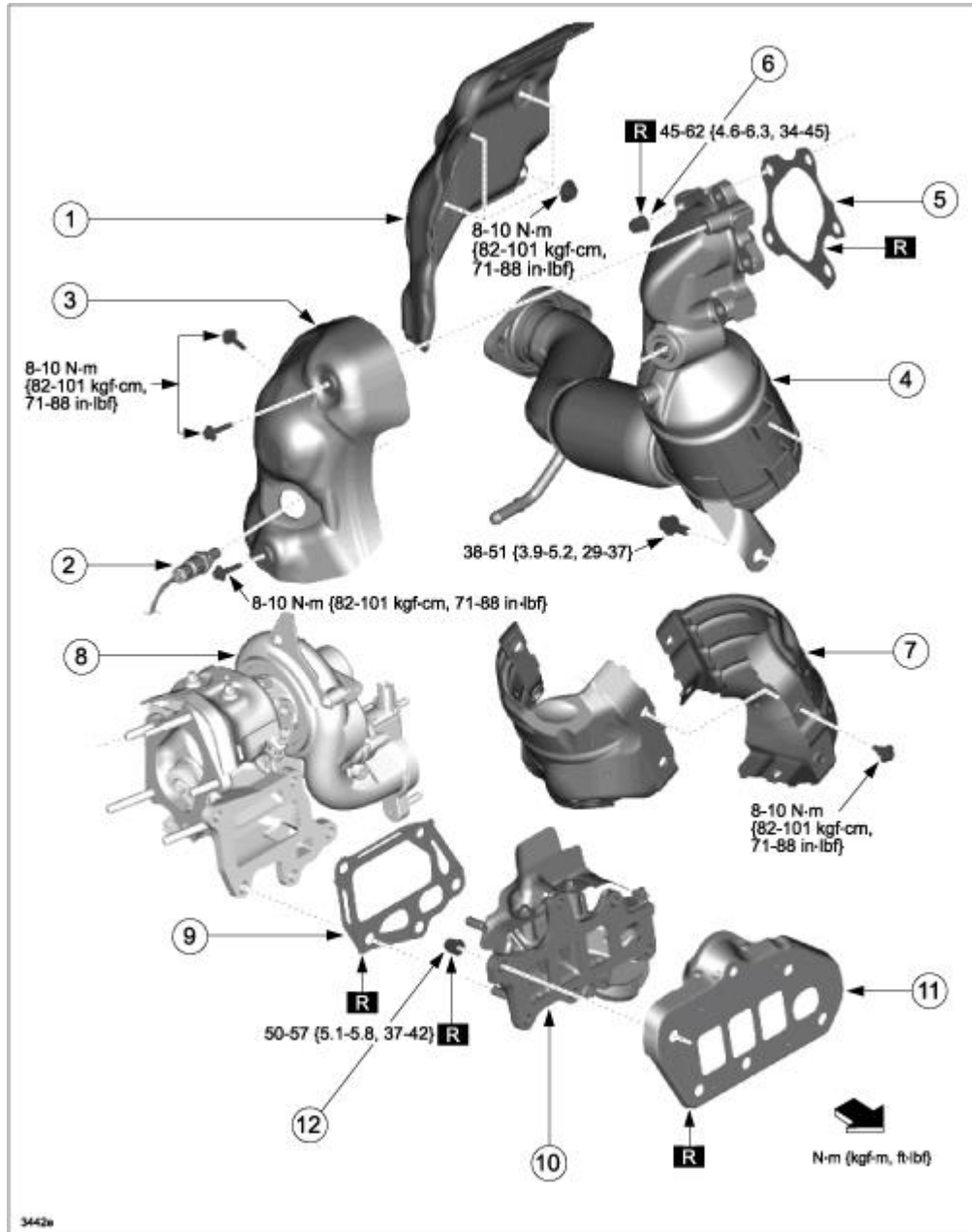
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Part Location



1	Main silencer	5	HO2S
2	Plate	6	TWC
3	Brace bar	7	Gasket (2) (Replace)
4	Tunnel Member	8	Nut (4) (Replace)

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1	Insulator No.1	7	Insulator No.3
2	A/F sensor	8	Turbocharger
3	Insulator No.2	9	Gasket, Turbocharger (Replace)
4	WU-TWC	10	Exhaust Manifold (Replace)
5	Gasket, WU-TWC (Replace)	11	Gasket, Exhaust Manifold (Replace)
6	Nut, WU-TWC (5) (Replace)	12	Nut, Exhaust Manifold (6) (Replace)

WARRANTY INFORMATION

NOTE:

- This warranty information applies only to verified customer complaints on vehicles eligible for warranty repair.
- This repair will be covered under Mazda's Powertrain Limited Warranty.
- Additional diagnostic time cannot be claimed for this repair.

Warranty Type	A
Symptom Code	6X
Damage Code	9G
Part Number Main Cause	PY8V-13-450F
Quantity	1
Operation Number / Labor Hours:	XXP34ARX / 4.3 Hrs. (2WD) XXP34CRX / 4.2 Hrs. (4WD)

NOTE: Enter other replaced parts in Related Parts.

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